

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently Amended) A gas sensor comprising a substrate of a first charge carrier type, whereon a drain and a source of a second charge carrier type are arranged, wherein a channel area is formed between the drain and the source, and with a gas-sensitive layer comprising poles, between which a gas-induced voltage is produced according to the concentration of a gas which is in contact with the layer, wherein in order to measure the voltage, the gas-sensitive layer is capacitatively coupled by one of its poles to the channel area over an air gap and by its other pole- to a 10 counter-electrode having a reference potential, characterized in that a hydrophobic layer- is arranged on the surface of the gas sensor between the gas sensitive layer and the channel area and/or a sensor electrode, which is electrically connected to a gate electrode arranged on the channel area, whereby the static contact angle of the hydrophobic layer measured with water and obtained in a planar surface is at least 90°.

2. (Currently Amended) A gas sensor as defined in claim 1, characterized in that it has an electrically conductive guard ring on its surface, which delimits the channel area and/or the sensor electrode leading to the channel area from the channel area and/or the sensor electrode by means of a space, and further 20 characterized in that the hydrophobic layer is arranged in at least one area of the surface of the gas sensor located between the guard ring and the channel area and/or the sensor electrode.

3. (Currently Amended) A gas sensor as defined in claim 1, characterized in that the 25 hydrophobic layer extends continuously over the channel area and/or the sensor electrode.

4. (Currently Amended) A gas sensor as defined in claim 1, characterized in that the hydrophobic layer is separated from the channel area and/or the 30 sensor

electrode *{sic}* and delimits the channel area and/or the sensor electrode preferably in a ring- or frame-like manner.

5. (Currently Amended) A gas sensor as defined in claim 1, characterized in that the static contact angle of the hydrophobic layer measured with water ~~5~~ and obtained on a planar surface is ~~at least 70°, if necessary~~ at least 90°, especially at least 105° and preferably at least 120°.

6. (Currently Amended) A gas sensor as defined in claim 1, characterized in that molecules of the hydrophobic layer are covalently bound to the surface ~~40~~ of an adjacent, preferably semi-conductive or electrically insulating layer of the gas sensor.

7. (Previously Presented) A gas sensor as defined in claim 1, characterized in that the hydrophobic layer contains at least one polymer.

8. (Currently Amended) A gas sensor as defined in claim ~~4~~ 7, characterized in that the polymer is a fluoride and preferably a perfluoride polymer.

9. (Currently Amended) A gas sensor as defined in claim ~~4~~ 7, characterized in ~~20~~ that the polymer is connected by an intermediate layer that is preferably in the form of a monolayer to an adjacent, preferably semi-conductive or electrically insulating layer of the gas sensor, and further characterized in that the intermediate layer has at least one reactive group anchored on the adjacent layer, and that the polymer is coupled preferably by means of a covalent bond to ~~25~~ the intermediate layer.

10. (Previously Presented) A gas sensor as defined in claim 1, characterized in that the hydrophobic layer has a surface profiling with projections and depressions.

11. (Currently Amended) A gas sensor as defined in claim ~~4~~ 7, characterized in that the depressions are in the form of slots or grooves and preferably form a frame or a ring around the channel area and/or the sensor electrode.